

## From the Stars to the Market: Synergies between Astrophysics and Smart Business Models through JUPITER

The Exascale supercomputer **JUPITER** at Forschungszentrum Jülich opens new frontiers in astrophysics – from cosmological simulations to the processing of massive telescope data. These scientific advances go far beyond fundamental research: they create direct opportunities for **smart business models** across industries.

Astrophysics	Business Transfer
Processing petabytes from telescopes (SKA, James Webb)	Predictive analytics services for finance, retail, logistics
Simulating galaxies, stars, cosmic phenomena	Digital twins of cities, factories, energy systems
AI for classification of cosmic objects	Sector-specific AI for quality, customers, risk analysis
Modeling extreme cosmic events	Crisis & resilience modeling for supply chains, energy, climate

### Strategic Impact

- **Innovation Acceleration:** Scientific breakthroughs fuel commercial applications.
- **Platform Economies:** Shared use of JUPITER enables business models based on data, simulation, and AI.
- **European Sovereignty:** Turning European research into market strength reduces external dependency.
- **Sustainable Value Creation:** Synergies foster climate-friendly and resilient solutions.

### Conclusion

Astrophysics and business benefit together from JUPITER: what begins as a **view into the depths of the universe** becomes the foundation for **smart, data-driven business models**. JUPITER is not only a motor for exploring the cosmos, but also a **catalyst for new markets and platforms** that strengthen Europe’s future.